

AMENDMENTS TO THE CLAIMS

1. (currently amended) A polyethylene composition with multimodal molecular mass distribution, which has a density in the range from 0.955 to 0.960 g/cm³ at 23 °C ~~and~~, an MFI_{190/5} in the range from 0.8 to 1.6 dg/min, and which comprises from 45 to 55 % by weight of a low-molecular-mass ethylene homopolymer A[₁]; from 20 to 35 % by weight of a high-molecular-mass copolymer B made from ethylene and ~~from another~~ a first 1-olefin comonomer having from 4 to 8 carbon atoms[₁]; and from 20 to 30 % by weight of an ultrahigh-molecular-mass ethylene copolymer C containing a second 1-olefin comonomer, wherein all of the percentage data are based on the total weight of the composition.
2. (currently amended) ~~A~~The polyethylene composition as claimed in claim 1, wherein the first 1-olefin comonomer is present in an amount ~~high-molecular-weight copolymer B contains small proportions of~~ from 0.1 to 0.6 % by weight of ~~co-monomer having from 4 to 8 carbon atoms, based on the weight of copolymer B, and wherein the ultrahigh-molecular-mass ethylene copolymer C contains an amount in the range~~ and the second 1-olefin comonomer is present in an amount from 0.5 to 2.5 % by weight of ~~co-monomers, based on the weight of copolymer C.~~
3. (currently amended) ~~A~~The polyethylene composition as claimed in claim 1 ~~or 2, which, as a co-monomer, contains~~ wherein the first 1-olefin and second 1-olefin comonomers are independently selected from 1-butene, 1-pentene, 1-hexene, 1-octene, 4-methyl-1-pentene, or a mixture of these.
4. (currently amended) ~~A~~The polyethylene composition as claimed in ~~one or more of claims 1 to 3~~claim 1, ~~which has~~having a viscosity number VN_{tot} of from 280 to 350 cm³/g; ~~preferably from 300 to 320 cm³/g;~~ measured to ISO/R 1191 in decalin at 135 °C[₁].
5. (currently amended) ~~A~~The polyethylene composition as claimed in ~~one or more of claims 1 to 4~~claim 1, which has a swell ratio in the range from 115 to 145 %, ~~and a notched~~

impact strength (ISO) in the range from 8 to 14 kJ/m², and a stress-crack resistance (FNCT) in the range from 8 to 20 h.

6. (currently amended) A process for producing a polyethylene composition with multimodal molecular mass distribution, having a density in the range from 0.955 to 0.960 g/cm³ at 23 °C, an MFI_{190/5} in the range from 0.8 to 1.6 dg/min, and which comprises from 45 to 55 % by weight of a low-molecular-mass ethylene homopolymer A; from 20 to 35 % by weight of a high-molecular-mass copolymer B made from ethylene and a first 1-olefin comonomer having from 4 to 8 carbon atoms; and from 20 to 30 % by weight of an ultrahigh-molecular-mass ethylene copolymer C containing a second 1-olefin comonomer, wherein all of the percentage data are based on the total weight of the composition, as claimed in one or more of claims 1 to 5, in which wherein the monomers are polymerized in slurry in a temperature range of from 20 to 120 °C at a pressure in the range of from 0.15 to 1 MPa, and in the presence of a high-mileage Ziegler catalyst composed of a transition metal compound and of an organoaluminum compound, ~~which comprises~~ the process comprising conducting polymerization in three stages, wherein the molecular mass of the polyethylene prepared in each stage is regulated with the aid of hydrogen, thereby forming a hydrogen concentration in each stage.
7. (currently amended) A ~~The~~ process as claimed in claim 6, wherein the hydrogen concentration in the first polymerization stage is adjusted so that ~~the~~ a viscosity number VN₁ of the low-molecular-mass ~~polyethylene~~ ethylene homopolymer A is in the range of from 70 to 90 cm³/g.
8. (currently amended) A ~~The~~ process as claimed in claim 6 ~~or 7~~, wherein the hydrogen concentration in the second polymerization stage is adjusted so that ~~the~~ a viscosity number VN₂ of ~~the~~ a mixture of polymer A and polymer B is in the range of from 150 to 200 cm³/g.
9. (currently amended) A ~~The~~ process as claimed in ~~any of claims 6 to 8~~ claim 6, wherein the hydrogen concentration in the third polymerization stage is adjusted so that ~~the~~ a viscosity

number VN_3 of the mixture of polymer A, polymer B, and polymer C is in the range of from 260 to 340 cm^3/g , ~~in particular from 280 to 320 cm^3/g .~~

10. (currently amended) ~~The use of a process for producing a blow molding from~~ a polyethylene composition with multimodal molecular mass distribution, having a density in the range from 0.955 to 0.960 g/cm^3 at 23 °C, an $\text{MFI}_{190/5}$ in the range from 0.8 to 1.6 dg/min , and which comprises from 45 to 55 % by weight of a low-molecular-mass ethylene homopolymer A; from 20 to 35 % by weight of a high-molecular-mass copolymer B made from ethylene and a first 1-olefin comonomer having from 4 to 8 carbon atoms; and from 20 to 30 % by weight of an ultrahigh-molecular-mass ethylene copolymer C containing a second 1-olefin comonomer, wherein all of the percentage data are based on the total weight of the composition,
~~as claimed in one or more of claims 1 to 5 for producing small blow moldings such as containers with a capacity in the range from 200 to 5000 cm^3 (= ml), where the polyethylene composition is first plasticized the process comprising:~~
- (a) plasticizing the polyethylene composition in an extruder in a temperature range of from 200 to 250 °C;
 - (b) ~~and is then extruded~~ extruding the product of step (a) through a die into a mold;
~~where it is blown up and then cooled and solidified thereby~~
 - (c) blowing up the product of step (b) in a blow molding apparatus; and
 - (d) cooling the product of step (c) to solidify the blow molding.
11. (new) The polyethylene composition as claimed in 4 where the viscosity number VN_{tot} is from 300 to 320 cm^3/g .
12. (new) The process as claimed in claim 9, wherein the viscosity number VN_3 of the mixture of polymer A, polymer B, and polymer C is in the range of from 280 to 320 cm^3/g .
13. (new) The process as claimed in claim 10 where the blow molding is a container with a capacity in the range from 200 to 5000 cm^3 .